البحث السادس

Economic Efficiency of Fish Hatcheries in Fayoum Governorate: Data Envelopment Analysis Model (DEA)

This research aims at measuring the economic efficiency of fish hatcheries in Fayoum governorate, where a primary data of five licensed operating fish hatcheries was used to achieve this aim. Results revealed that economic efficiency in case of a constant return to scale was totally achieved in the first hatchery, while it was also high in both the second and fifth hatcheries by about 95% and 99%, respectively. The least efficient hatcheries were the third and the fourth hatcheries with an efficiency of about 89% and 82% respectively. Therefore there is a need to increase production in both hatcheries by 11% and 18% respectively to reach the optimum size. The economic efficiency in the case of a variable return to scale was estimated too, where efficiency index was one in the first, fourth, and fifth hatcheries, while the economic efficiency was also high in both the second and the third hatcheries by about 95% and 90% respectively. Fish hatcheries in Fayoum governorate suffer from various problems such as, decreased quantities of agricultural drainage water received, marketing inabilities of fish hatcheries' owners, and weak financing capacity of fish hatcheries' holders, difficult licensing procedures, and high prices of production inputs used in fish hatching process. The study recommends expanding the establishment of fish hatcheries in the Fayoum governorate, as they produce the basic core of fish farming, which is the fry, with an emphasize on the need to overcome the problems and obstacles it faces.

Keywords: Economic Efficiency, Fish Hatcheries, Data Envelopment Analysis (DEA).